



## Cover Sheet for In-State Institutions

### New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	
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***Each action below requires a separate proposal and cover sheet.***

- |                             |   |
|-----------------------------|---|
| New Academic Program        | Substantial Change to a Degree Program            |
| New Area of Concentration   | Substantial Change to an Area of Concentration    |
| New Degree Level Approval   | Substantial Change to a Certificate Program       |
| New Stand-Alone Certificate | Cooperative Degree Program                        |
| Off Campus Program          | Offer Program at Regional Higher Education Center |

Payment Submitted:	Yes	Payment Type:	R*STARS # JB036107	Payment Amount:	Date Submitted: 03/15/23
Department Proposing Program					
Degree Level and Degree Type					
Title of Proposed Program					
Total Number of Credits					
Suggested Codes			HEGIS:	CIP:	
Program Modality			On-campus	Distance Education (fully online)	Both
Program Resources			Using Existing Resources	Requiring New Resources	
Projected Implementation Date <small>(must be 60 days from proposal submission as per COMAR 13B.02.03.03)</small>			Fall	Spring	Summer Year:
Provide Link to Most Recent Academic Catalog			URL:		
Preferred Contact for this Proposal			Name:		
			Title:		
			Phone:		
			Email:		
President/Chief Executive			Type Name:		
			Signature: <i>Catherine Anderson</i> Date:		
			Date of Approval/Endorsement by Governing Board:		

Revised 1/2021



March 15, 2023

The Honorable James D. Fielder, Ph.D.  
Secretary of Higher Education  
6 North Liberty Street  
Baltimore, Maryland 21201

Dear Secretary Fielder,

The University of Baltimore is requesting MHEC's permission to substantially revise the MS Business with a concentration in Finance curriculum as described in the accompanying proposal, and to change the CIP code to 30.7104, "Financial Analytics". The revised MS in Business--Finance program will directly contribute to training highly qualified finance professionals for the region by providing them with financial data analytics skills which are currently in high demand in the industry. We are also requesting the program's CIP code to be changed to 30.7104 "Financial Analytics" to reflect its Financial Analytics nature and stronger quantitative focus.

The program's State HEGIS code is 0501.00, and the CIP code is 30.7104.

Please let me know if you have any questions. Thank you.

Sincerely,

*Catherine F Andersen*  
Catherine F. Andersen  
Interim Provost

cc: Darlene B. Smith, Interim Associate Vice Chancellor for Academic Affairs  
Encl.

**UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR**

_____	New Instructional Program
<u>x</u> _____	Substantial Expansion/Major Modification
_____	Cooperative Degree Program
_____	Within Existing Resources, or
_____	Requiring New Resources
_____	

**The University of Baltimore**

\_\_\_\_\_  
Institution Submitting Proposal

**MS in Business—Finance**

\_\_\_\_\_  
Title of Proposed Program

\_\_\_\_\_  
Award to be Offered

**Fall 2023**

\_\_\_\_\_  
Projected Implementation Date

**50100.00**

\_\_\_\_\_  
Proposed HEGIS Code

**30.7104**

\_\_\_\_\_  
Proposed CIP Code

**Merrick School of Business**

\_\_\_\_\_  
Department in which program will be located

**Mikhail Pevzner**

\_\_\_\_\_  
Department Contact

**410-837-5862**

\_\_\_\_\_  
Contact Phone Number

**mpevzner@ubalt.edu**

\_\_\_\_\_  
Contact E-Mail Address

\_\_\_\_\_  
Signature of President or Designee

\_\_\_\_\_  
Date

## **A. Centrality to Institutional Mission and Planning Priorities:**

- 1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.**

The University of Baltimore is requesting MHEC's permission to substantially revise the MS Business with a concentration in Finance (heretofore referred to as MS in Business – Finance) curriculum as described on the following pages, and to change the CIP code to 30.7104, "Financial Analytics".

The University of Baltimore's Mission Statement states: "The University of Baltimore offers career-focused education for aspiring and current professionals, providing the region with highly educated leaders who make distinctive contributions to the broader community." The original MS in Business with a Concentration in Finance program has been around for decades, and its graduates are employed all over the world in finance, accounting, and other corporate functions. Many program graduates are also employed regionally. However, the world of finance is rapidly changing, and it requires finance employees to have much more sophisticated quantitative and data analytics skills. This proposed program curriculum change reflects this need for the finance profession regionally and worldwide.

The revised MS in Business—Finance program will directly contribute to training highly qualified finance professionals for the region. It will do so by providing them with financial data analytics skills which are currently in high demand in the industry. We are also requesting the program's CIP code to be changed to 1"30.7104 "Financial Analytics" to reflect its Financial Analytics nature and stronger quantitative focus.

- 2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.**

The University of Baltimore's (UBALT) Strategic Goals are:

- Goal 1: Position UBALT as the region's premier professional, career-focused university
- Goal 2: Strengthen student success
- Goal 3: Solidify UBALT's commitment to community engagement and service
- Goal 4: Organize for long-term financial stability
- Goal 5: Achieve excellence in research, scholarship, and creative activity
- Goal 6: Strengthen UBALT's commitment to diversity, equity and inclusion

The program directly relates to Goals 1, 4, and 6. By revising our graduate finance program to meet the needs of the marketplace where finance professionals with strong data analytics skills are highly sought, The University of Baltimore enhances its reputation for training highly qualified finance professionals. Furthermore, STEM-designating the program should make it more attractive to international students which should further contribute to the institution's financial stability and increase diversity of our student body.

- 3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L.)**

The program, as designed, will be run by our existing faculty and will not require any additional new faculty resources. Rather than creating a brand-new program, we are revising an existing program to meet the needs of the marketplace, and, as such, it will not require any additional funding beyond what is provided for the existing faculty lines.

- 4. Provide a description of the institution's commitment to:**

- a) ongoing administrative, financial, and technical support of the proposed program**

As discussed above, this is a substantial revision of the current program for which there is adequate support available.

**b) continuation of the program for a period of time sufficient to allow enrolled students to complete the program.**

Students currently enrolled in the existing program will be given the option to continue under the existing program requirements or switch to the new program design. We will continue to offer all courses required under the existing program design over the next two years, as needed. The program cross-utilizes resources with our MBA and MS in Accounting and Business Advisory Services program, and as such, there are no concerns over our ability to continue offering the program in the foreseeable future.

**B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:**

**1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:**

- a) The need for the advancement and evolution of knowledge;
- b) Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education
- c) c) The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

Table A below summarizes the expected growth for jobs of financial managers in the Maryland counties in the Baltimore metropolitan region<sup>1</sup>:

**Table A: Summary of the Expected Demand for Financial Managers Across Selected Maryland Counties**

	Occ Code	Occupational Title	Occupation Level	Employment			
				2018	2028	Change	Pct. Chg
Anne Arundel County	11-3031	Financial Managers	4	1,092	1,425	333	30.49%
Baltimore City	11-3031	Financial Managers	4	2,142	2,537	395	18.44%
Baltimore County	11-3031	Financial Managers	4	2,021	2,298	277	13.71%
Carroll County	11-3031	Financial Managers	4	221	262	41	18.55%
Howard County	11-3031	Financial Managers	4	908	1,047	139	15.31%
Montgomery County	11-3031	Financial Managers	4	3,514	4,075	561	15.96%
Prince George's County	11-3031	Financial Managers	4	1,566	1,782	216	13.79%
<b>Total</b>				<b>11,464</b>	<b>13,426</b>		<b>17%</b>

As can be seen from Table A, the State is expecting a significant increase in demand for financial managers in the next five years. Overall, the State expects a 30% increase in the number of employed financial managers between 2020 and 2030<sup>2</sup>. This evidence sustains the need for a robust graduate finance degree at The University

<sup>1</sup> Source: Workforce Region Occupational Projections - Maryland Occupational Projections - 2018-2028 - Workforce Information & Performance: <https://www.dllr.state.md.us/lmi/iandoproj/wias.shtml>

<sup>2</sup> <https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml>

of Baltimore. Furthermore, the City of Baltimore shows that the marketplace demand for employees with a strong background in statistics is extraordinarily strong. According to the Baltimore Mayor’s Office of Employment Development, Statisticians were the 2<sup>nd</sup> highest in-demand profession in the City<sup>3</sup>; furthermore, the same source suggests that financial managers are among the highest-paid and most-in-demand occupations in the city<sup>4</sup>. The job of a statistician requires sophisticated data analytics skills, and this suggests that combining finance knowledge with data analytics knowledge creates a particularly robust and attractive combination of job skills. Thus, we believe that MS in Business—Finance program will greatly serve the job training needs of the City of Baltimore and the region. The degree is open to students with and without a prior business or finance background, and, as such, opens doors to a wide swath of possible degree candidates.

The University of Baltimore is a minority-serving, Predominantly-Black Institution with a highly diverse student body in multiple dimensions—racially, economically, and ethnically. Thus, revising our program to emphasize financial data analytics should significantly increase access to higher-paying jobs among minority and economically disadvantaged students.

**2. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.**

**The 2017-2021 State Plan for Postsecondary Education: Student Success with Less Debt outlines three primary goals for the postsecondary community in Maryland:**

**Access: Ensure equitable access to affordable and quality postsecondary education for all Maryland residents.**

**Success: Promote and implement practices and policies that will ensure student success.**

**Innovation: Foster innovation in all aspects of Maryland higher education to improve access and student success.**

The University of Baltimore is an open-access, minority-serving, Predominantly Black Institution. Table B below indicates that our graduate tuition is the lowest among graduate finance programs offered by the other AACSB-accredited Universities in Maryland.

**Table B: Comparative Total Program Costs for graduate finance programs among AACSB-accredited universities in Maryland<sup>5</sup>:**

<b>Institution</b>	<b>Estimated Program Cost (not including fees)</b>
Johns Hopkins University	\$79,800
University of Maryland College Park	\$47,460
The University of Baltimore	\$25,230

Table B thus clearly shows that our MS in Business—Finance program would further ensure equitable access to equitable and affordable quality postsecondary education for all Maryland residents. As the program is available online and in on-campus modalities, it will serve Maryland residents in the immediate vicinity of the University of Baltimore’s campus and in rural Maryland. The refocusing of the program on Financial Data Analytics further fosters innovation in Maryland higher education which improves access and student success in finding more gainful employment, contributing to Priorities 5 (“Maintain the commitment to high-quality

<sup>3</sup> [https://mwejobs.maryland.gov/admin/gsipub/htmlarea/uploads/BaltCity\\_Occ\\_Outlook.pdf](https://mwejobs.maryland.gov/admin/gsipub/htmlarea/uploads/BaltCity_Occ_Outlook.pdf)

<sup>4</sup> According to the Baltimore City Occupational Outlook, in Baltimore, there are 686 openings for Personal Financial Advisors, with an average salary of approximately \$108,000 per year, and 532 openings for Financial Managers, with an average salary of approximately \$138,000 per year. Broker-dealers (Securities, Commodities, and Services Sales Agents is an occupation with the highest growth expectation in Baltimore).

<sup>5</sup> The table was created on the basis of information from the respective program’s websites. All programs listed here are 30 credits-long. The program listing is based on the information provided by MHEC Program Inventory.

postsecondary education in Maryland” and 7 (“Enhance the ways postsecondary education is a platform for ongoing lifelong learning”) of Maryland State Plan for Higher Education.

**C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:**

**1. Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.**

We expect our graduates to be employed in a variety of industries as financial analysts, mid-level financial managers as well as take positions in financial services as financial advisers and planners in financial services and insurance industries.

**2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.**

**Table A: Summary of the Expected Demand for Financial Managers Across Selected Maryland Counties**

	Occ Code	Occupational Title	Occupation Level	Employment			
				2018	2028	Change	Pct. Chg
Anne Arundel County	11-3031	Financial Managers	4	1,092	1,425	333	30.49%
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<b>Total</b>				<b>11,464</b>	<b>13,426</b>		<b>17%</b>

As reflected above, there is high market demand for financial managers, and we believe that the demand for managers with financial analytic skills will continue to grow for some time.

**3. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.**

According to *U.S. News and World Report*, “Demand for financial managers, especially those with expertise in cash and risk management, is on the upswing, the Bureau of Labor Statistics says, “*This occupation will grow 19 percent between 2016 and 2026, nearly three times the 7 percent average among all occupations.*” Retiring baby boomers are also increasing the need for personal financial advisors. The BLS projects a 14 percent employment increase for personal financial advisors between 2016 and 2026. Financial analyst positions are projected to grow 11 percent in this same period, thanks in part to new investment opportunities in global markets” [emphasis added] <sup>6</sup>.

As seen from Table A, the State expects a significant increase in demand for financial managers in the next five years. Overall, the State expects a 30% increase in the number of employed financial managers between 2020 and 2030<sup>6</sup>. This evidence sustains the need for a robust graduate finance degree at The University of Baltimore. Furthermore, the City of Baltimore shows that the marketplace demand for employees with a strong background in statistics is very strong. According to the Baltimore Mayor's Office of Employment Development, Statisticians were the 2<sup>nd</sup> highest in-demand profession in the City<sup>7</sup>; furthermore, the same source suggests that financial managers are among the highest-paid and most-in-demand occupations in the city<sup>8</sup>. The job of a statistician requires sophisticated data analytics skills, and this suggests that combining finance knowledge with data analytics knowledge creates a particularly robust and attractive combination of job skills. Thus, we believe that will greatly serve the job training needs of the City of Baltimore and the region. The degree is open to students with and without a prior business or finance background, and thus opens doors to a wide swath of possible degree candidates.

#### 4. Provide data showing the current and projected supply of prospective graduates.

The forecasted demand for finance jobs makes us believe that there will be a robust pipeline for this graduate degree since it provides the skills needed for those jobs. Obtaining a STEM designation should significantly increase the degree's attractiveness to international students who have consistently shown an interest in the degree, based on attendance at the University of Baltimore's Merrick School of Business Graduate Specialist Master's Information Sessions. This is supported by the evidence in O\*NET: according to one publication, "Having a graduate education is more valuable in some finance jobs than others. *Among financial quantitative analysts, 65 percent of the workforce reported having a master's degree, according to O\*NET.* If you want to work in this area of finance, it's likely that the demand for a graduate degree will be strong and that having this degree will improve your job prospects [emphasis added]"<sup>9</sup>.

*U.S. News and World Report* further reports: "The BLS projects that 108,400 jobs for financial managers will be added from 2016 to 2026. *An online finance master's degree can help job seekers take advantage of these emerging job opportunities.* Personal financial advisors should also experience large employment growth, with a 39,300 boost in jobs expected between 2016 and 2026, a rate of 14 percent. *A master's degree in finance or business administration may help professionals attract more clients and advance to management roles.*

As businesses expand, investment opportunities increase, which also leads to a greater demand for financial analysts. The BLS anticipates an 11 percent increase in these jobs from 2016 to 2026 – a growth of about 32,000. *Competition for positions will likely remain fierce, so a master's degree and certifications can be beneficial.*

Securities, commodities, and financial services sales agents – including brokers and investment bankers – should experience 6 percent employment growth from 2016 to 2026, according to the BLS. More than 23,000 jobs are expected to be added, but competition will be high." [emphasis added]<sup>10</sup>.

In other words, MS in Business—Finance degree at the University of Baltimore should not only provide its graduates with a distinctive educational credential in the workplace, but—through the enhanced data analytics

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<sup>6</sup> <https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml>

<sup>7</sup> [https://mwejobs.maryland.gov/admin/gsipub/htmlarea/uploads/BaltCity\\_Occ\\_Outlook.pdf](https://mwejobs.maryland.gov/admin/gsipub/htmlarea/uploads/BaltCity_Occ_Outlook.pdf)

<sup>8</sup> According to the Baltimore City Occupational Outlook, in Baltimore, there are 686 openings for Personal Financial Advisors, with an average salary of approximately \$108,000 per year, and 532 openings for Financial Managers, with an average salary of approximately \$138,000 per year. Broker-dealers (Securities, Commodities, and Services Sales Agents is an occupation with the highest growth expectation in Baltimore).

<sup>9</sup> <https://www.degreequery.com/what-is-the-demand-for-a-degree-in-finance/>

<sup>10</sup> <https://www.usnews.com/education/online-education/finance-masters-degree>



training—it will also give these graduates cutting-edge skills needed to compete for the best jobs in the finance field.

**D. Reasonableness of Program Duplication:**

Per Table B, the University of Baltimore’s MS in Business—Finance program is one of three existing MS in Finance programs in the State of Maryland. Among the three existing programs, our program offers a MS degree at a much lower cost than our competitors. As such, it does not create any additional program duplication.

**E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)**

**1. Discuss the program’s potential impact on the implementation or maintenance of high-demand programs at HBIs.**

According to the current MHEC Program Inventory, none of the HBIs in the State currently offer graduate finance programs. Moreover, we emphasize that this is not a new program, but rather a significant revision of the program that has existed since 1980s, and to our knowledge, this program was never noted as having a negative impact on existing HBI programs. Thus, we do not expect any impact on high-demand HBI programs.

**F. Relevance to the identity of Historically Black Institutions (HBIs)**

**1. Discuss the program’s potential impact on the uniqueness and institutional identities and missions of HBIs.**

We expect no effect on the uniqueness and institutional identities and missions of HBIs since none of the HBIs in the State currently provide graduate finance programs.

**G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR 13B.02.03.10):**

**1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.**

The original MS in Business with Concentration in Finance has been around since 1980s (with a period of suspension in late 1990s through mid-2000s). The new revised in MS in Business—Finance represents a significant revision of the original program to reflect the changes in content demanded by the contemporary field of finance and based on the skills needed by our graduates.

The Accounting, Finance, and Economics (AFE) Department at the University of Baltimore’s Merrick School of Business (MSB) has two full and two associate professors with tenure who teach in the program consistently. They are working through modifying the existing courses to reflect the greater demand for data analytics. In addition, we have developed two specialized data analytics courses for the program. Finally, the program will be using the existing data analytics courses from Information and Decisions Sciences Department; all these courses have been adequately staffed by the existing full-time faculty most of whom are tenured.

The program will be overseen by Professor Phil Korb, Department Chair of the Department of Accounting, Finance and Economics and by Professor Mikhail Pevzner, Graduate Program Director at the Merrick School of Business at the University of Baltimore.

**2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.**

*Goal 1: Managing Performance and Risk*

LO 1.1 Students will use accounting-based and operational information to assess performance.

LO 1.2 Students will use financial analysis to solve business problems and recommend actions that maximize shareholder value.

LO 1.3 Students are able to evaluate the sustainability of a business operating model by conducting an analysis of financial statements and ratios.

Goal 2: Value Business Entities

LO 2.1 Students are able to use financial concepts, tools, and models to estimate a firm's cost of capital and value.

Goal 3: Leveraging Technology and Business Intelligence

LO 3.1 Students will recommend information technology to support and advance business strategy and operations.

LO 3.2 Students will evaluate and apply selected analytics techniques to help enhance organizational competitiveness.

Goal 4: Manage Foreign Exchange Risk and Interest Rate Risk

LO 4.1 Students are able to identify and measure the source of exchange rate risk and interest rate risk and use derivative securities to manage and hedge those risks

Goal 5: Use Financial Data Analytics Techniques

LO 5.1. Students are able to utilize financial data analytics techniques in performing financial analyses used in accomplishing Goals 1-4 above.

**3. Explain how the institution will:**

**a) provide for assessment of student achievement of learning outcomes in the program**

Program goals have been mapped across all courses in the curriculum and assessments for each goal and subgoal occur within courses. Rubrics are developed by the department and used to assess artifacts collected by faculty bi-annually. Departmental assessment meetings discuss ways to improve student outcomes across the curriculum and improvements are not limited to the courses where the assessment occurs. Finally, the Merrick School of Business conducts bi-annual Assessment Retreats where assessment results are presented to a broad constituency.

**b) document student achievement of learning outcomes in the program**

As described above, assessment is a faculty-driven cycle of continuous improvement. While assessment results document student achievement, they are also used to drive curriculum change.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.

While the total number of credits after prerequisites remains unchanged, both the required and elective courses have been realigned in the proposed program.

**Program Requirements:**

EXISTING			PROPOSED		
<b>Program Prerequisites (0 – 9 credits):</b>			<b>Program Prerequisites (0 – 10.5 credits):</b>		
Course Number	Title	Credits	Course Number	Title	Credits
ACCT 505	Introduction to Accounting	1.5	ACCT 505	Introduction to Accounting	1.5
ECON 505	MicroEconomics	1.5	FIN 505	Essentials of Finance	1.5
ECON 605	MacroEconomics	1.5	FIN 605	Financial Management	1.5
FIN 505	Essentials of Finance	1.5	FIN 625	Corporate Finance	1.5
OPRE 505	Fundamentals of Statistics	1.5	OPRE 505	Fundamentals of Statistics	1.5
OPRE 506	Managerial Statistics	1.5	OPRE 506	Managerial Statistics	1.5
Program prerequisites may be waived based on undergraduate coursework.			OPM 505	Introduction to Operations Management	1.5
Required Courses (18 credits):			Required Courses (15 credits):		
Course Number	Title	Credits	Course Number	Title	Credits
ACCT 605	Performance Management and Accounting Controls	3	FIN 624	Finance and Accounting Analytics	3
FIN 605	Financial Management	1.5	FIN 715	Investment Analysis	3
FIN 615	Entrepreneurial Finance	1.5	INSS 611	Data Science Toolkit 1	1.5
FIN 625	Corporate Finance	1.5	INSS 612	Data Science Toolkit 2	1.5
FIN 700	Financial Reporting	3	OPRE 605	Business Analytics	1.5
INSS 605	IT for Business Transformation	3	FIN 724	Applications of Business and Machine Learning	1.5
INSS 703	Principles of Information Security Management	3	INSS 722	Visual Business Intelligence	3
OPRE 605	Business Analytics	1.5			

EXISTING			PROPOSED		
<b>Finance Electives (12 credits): Choose 12 credits from the following list:</b>			<b>Finance Electives (12 credits): Choose 12 credits (4 courses) from the following list:</b>		
Course Number	Title	Credits	Course Number	Title	Credits
ENTR 760	Social Enterprise and Entrepreneurship	3	FIN 700	Financial Statement Analysis	3
FIN 624	Finance and Accounting Analytics	3	FIN 720	Global Finance	3
FIN 704	Financial Markets and Institutions	3	FIN 725	Risk Management	3
FIN 715	Investment Analysis	3	FIN 780	Business Valuation	3
FIN 720	Global Finance	3	<p>Additionally, finance electives may be selected from other FIN and ACCT where the faculty explicitly dedicates a substantial amount of the course to financial analytics (e.g. through a project or an assignment).</p>		
FIN 725	Risk Management	3			
FIN 750	Real Estate Investment	3			
FIN 770	New Venture Financing	3			
FIN 780	Business Valuation	3			
FIN 792	Special Topics in Financial Management	1.5			
FIN 797	Special Topics in Financial Management	3			
			<b>Project Management Course (3 credits):</b>		
			Course Number	Title	Credits
			OPM 615	Innovation and Project Management	3

The mapping below demonstrates how the proposed program curriculum more appropriately is classified using CIP code 30.7104.

**Proposed Mapping of the Revised MS in Finance—Financial Analytics Program Curriculum into CIP Code 30.7104**

Course	Financial Analytics (FA)	Financial Data Processing (FDP)	Knowledge Management (KM)	Data Visualization (DV)	Effective Decision Communication (EDC)	Machine Learning for Finance (ML)	Statistical inference and dynamic modeling on financial data (SIDM)	Project management (PM)
FIN 624: Financial Analytics	X	X		X				
FIN 715: Investment Analysis	X	X			X			
INSS 611/612: Data Science Toolkit		X						
OPRE 605: Business Analytics							X	
FIN 724: Applications of Business Analytics and Machine Learning						X		
INSS 722: Visual Business Intelligence			X	X				
FIN 700 Financial Statement Analysis	X	X		X	X			
FIN 720 Global Finance	X	X						
FIN 780 Business Valuation	X	X			X			
FIN 725 Risk Management		X			X		X	
OPM 615 Project Management								X

**Course Descriptions (credit hours are given in parentheses)**

**ACCT 505 ACCOUNTING ESSENTIALS (1.50)**

Introduces students to the basics of corporate financial reporting and financial statement analysis from the manager's perspective. Emphasizes the analysis of financial statements and provides an overview of U.S. Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) rules for most critical accounting items. Prerequisite: graduate standing

**FIN 505 ESSENTIALS OF FINANCE (1.50)**

Provides introductory-level coverage of financial management. Topics include overview of financial markets, financial statement analysis, time value of money, risk-return tradeoff, security pricing and valuation, and capital budgeting decision tools.

**FIN 605 FINANCIAL MANAGEMENT (1.50)**

The course provides intermediate-level coverage of topics in financial statements and their analysis, financial forecasting, security risk and pricing and capital budgeting. The course is designed to build on the basic skills acquired in introductory finance courses. Prerequisite: FIN 505 or permission of program director

**FIN 624 FINANCE AND ACCOUNTING ANALYTICS (3)**

This course focuses on applying cutting-edge analytics techniques to examine "big data" in finance, accounting, and auditing. Students will acquire working knowledge of common financial data analytics software packages (e.g. SAS, Tableau, and IDEA). The course will heavily emphasize using data analytics techniques in solving common finance, accounting and auditing problems through using data preparation data visualization and analysis techniques. Prerequisite: FIN 605

#### FIN 625 CORPORATE FINANCE (1.50)

Provides advanced-level coverage of capital budgeting and intermediate-level coverage of topics in asset pricing, capital structure, dividend policy, and derivative instruments such as options and futures. Prerequisite: FIN 605

#### FIN 700 FINANCIAL REPORTING (3)

Integrates U.S. generally accepted accounting principles and International Financial Reporting Standards to develop students' understanding of financial accounting transactions, reporting standards and financial statements. Case materials and financial statements of U.S. and international companies are incorporated. Topics include standard setting, financial statement presentation issues, measurement issues (including fair-value accounting) and classification and recognition issues. Prerequisites: ACCT 505 and FIN 640 or FIN 605

#### FIN 715 INVESTMENT ANALYSIS (3)

Provides the theory and tools for measuring and managing the risk and return of financial instruments in the context of modern portfolio theory. A variety of stock, bond, option and other financial asset valuation techniques are presented throughout the course. Prerequisite: FIN 605 or FIN 640

#### FIN 720 GLOBAL FINANCE (3)

Emphasizes two aspects of global finance: 1) international capital market structure, interest rate and exchange rate determination; and 2) international corporate financial management of risk and return. Topics include: interest rate, purchasing power and international Fisher parities; hedging and management of international interest-rate and exchange-rate risk; and foreign exchange forecasting. Prerequisite: FIN 605 or FIN 640

#### FIN 724 Application of Business Analytics and Machine Learning (1.5)

The course examines main algorithms of Supervised and Unsupervised Learning, and Reinforcement Learning, and will be able to use ML open source Python packages to design, test, and implement ML algorithms in Finance. Prerequisite: FIN 624, INSS 611, 612 or permission of the instructor

#### FIN 725 RISK MANAGEMENT (3)

Provides a comprehensive overview of concepts and tools of corporate risk management, including identification and measurement of value-added, risk and managing the trade-off between the two. Topics include: value-at-risk measures; application of options and futures contracts to risk management; and managing interest rate, credit and other forms of operating risk. Prerequisite: FIN 605

#### FIN 780 BUSINESS VALUATION (3)

Business valuation arises in mergers, acquisitions, divestitures, estate taxation, lost profits litigation, buy-out agreements, commercial lending, venture capital, IPOs and other exit strategies. This course addresses valuation modeling, using asset pricing theory and practice and employing advanced applications such as EXCEL and corporate databases. The course material is of interest to students who envision careers as CPAs, business valuation experts, corporate finance analysts and investment bankers. Prerequisite: FIN 605

#### INSS 611 DATA SCIENCE TOOLKIT I (1.50)

This course will introduce the basis of using the python programming language in data science, specifically to collect and manipulate data in preparation for exploratory data analysis and prediction. No prior programming experience is required. Topics will include python data structures, program logic and libraries, as well as data wrangling and data management. Types of data sources covered will include databases as well as unstructured data sources such as social media feeds.

#### INSS 612 DATA SCIENCE TOOLKIT II (1.50)

The effectiveness of business analytics depends on the quality of the data fed into the analytics models used. Data scientists can spend as much as 60% of their time cleaning and organizing data. This course focuses on preparing data for analytics tasks, to improve the accuracy and reliability of the results. Using python students will learn to "wrangle" (clean, transform, merge and reshape) data. Techniques will include data parsing, data correction, and data standardization. Prerequisite: INSS 611

#### INSS 722 VISUAL BUSINESS INTELLIGENCE (3)

This course will introduce students to the use of data visualization and visual business intelligence in a business environment. Students will develop a framework and language for analyzing and critiquing the visualization of data, and learn to use data visualizations to effectively support decision making. Topics will include data abstraction and validation, and how to handle different types of data, dataset and attribute types. Students will use software tools to create visualizations. Prerequisite: INSS 605

#### OPM 505 INTRODUCTION TO OPERATIONS MANAGEMENT (1.50)

Overview of the concepts and tools used for the creation and delivery of goods and services. Describes the role of effective operations management for organizational success and competitiveness. Demonstrates approaches for improving quality, productivity, customer service and overall performance. Prerequisite: graduate standing

#### OPM 615 INNOVATION AND PROJECT MANAGEMENT (3)

Covers the essentials of innovation and project management from project selection through implementation, monitoring, control and termination. Topics covered include: product/process innovation, project identification, risk and uncertainty in project management, project planning and budgeting, selecting the project team, resource allocation, implementation and control, and project evaluation and termination. Prerequisite: OPM 505 or permission of instructor.

#### OPRE 505 FUNDAMENTALS OF STATISTICS (1.50)

Emphasizes applications of descriptive statistics in business. Topics include basic probability concepts, summary measures of location and dispersion, discrete and continuous probability distributions, sampling distribution of mean, and introductions to confidence interval estimation and hypothesis testing. Excel-based software is used for computer implementation. Prerequisite: graduate standing

#### OPRE 506 MANAGERIAL STATISTICS (1.50)

Emphasizes applications of inferential statistics in business. Topics include confidence interval estimation, hypothesis testing, analysis of variance, simple linear regression and an introduction to multiple regression. Excel-based software is used for computer implementation. Prerequisite: OPRE 505

#### OPRE 605 BUSINESS ANALYTICS (1.50)

Explores business analytics and its applications to management decision-making for a range of business situations. Covers problem structuring; big data; data mining; optimization; computer simulation; decision analysis; and predictive modeling. Prerequisite: OPRE 504 or OPRE 505 and OPRE 506 or equivalent or permission of the program director

### **5. Discuss how general education requirements will be met, if applicable.**

Not applicable to graduate degrees.

### **6. Identify any specialized accreditation or graduate certification requirements for this program and its students.**

The program is within scope of AACSB accreditation of the Merrick School of Business at the University of Baltimore.

7. **If contracting with another institution or non-collegiate organization, provide a copy of the written contract.**

Not applicable.

8. **Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial resources, and costs and payment policies.**

UBalt's website provides students with updated information on program curriculum, course and degree requirements, technology competence and skills expected for a degree, technical equipment requirements for courses, academic support services, financial aid resources, costs, and payment policies, and on the learning management system (LMS), Sakai. Within Sakai, student tutorials are available to help students with the LMS, and individual courses can also provide resource materials there. In Summer 2023, the University will migrate to the Canvas LMS, widely used within area community colleges and other USM institutions. We expect that migration to this state-of-the-art learning management system will support students' success and engagement by providing better access to learning resources. The University's Office of Disability and Access Services has a website, an office, office hours, and access to video and audio technologies to assist students who need accommodations. The Division of Student Support and Access Services and the Bogomolny Library also provide a variety of academic and other student support services, including access to counseling resources 24/7.

The Office of the Dean will work with the website content manager to ensure that the MS Business - Finance curriculum is updated. The catalog will be revised to reflect changes, and an updated Guide to Graduation for the MS Business - Finance will be provided for the revised major. Information about course formats and technology assumptions, as well as any equipment requirements, will be available, as usual, to students in the course schedule. Each student will receive a syllabus that outlines student learning outcomes, course format, technology needs, and campus resources. These resources include the Office of Disability and Access Services, the Academic Support Center (which has a Writing Center), and the Office of Technology Services.

9. **Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.**

The program director will communicate with College of Arts and Sciences and university marketing departments to ensure that any marketing materials, such as program fact sheets, reflect the new curriculum. See above for information about the catalog and website.

The catalog is updated annually and posted online, in addition to the routine program web page updates.

## **H. Adequacy of Articulation**

**Address how an undergraduate program supports transfer from other public institutions, especially community colleges. Identify as well any planned accelerated options or dual degrees. For graduate programs, identify any internal accelerated pathways or dual degrees or other planned partnerships that involve articulation.**

The Program is within the scope of Accelerated BS-MS programs within the University of Baltimore, as articulated by the University System of Maryland's rules for Accelerated Programs. Under this Policy, an undergraduate student with GPA of 3.5 or higher is allowed to take up to 9 graduate credits and double-count them towards their graduate degree.

## **I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11).**



1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

Faculty Member	Appointment Type	Field	Terminal Degree	Academic Rank	Status	Courses to be taught
Aggarwal, Anil	Tenured	Information Systems and Decision Science	PhD	Professor	Full-time	INSS 722
Chen, Dong	Tenured	Finance	PhD	Associate Professor	Full-time	FIN 505, FIN 605, FIN 625, FIN 700, FIN 725
Guo, Claire	Tenure-track	Information Systems and Decision Science	PhD	Assistant Professor	Full-time	OPRE 505, OPRE 506, OPRE 605
Mirani, Rajesh	Tenured	Information Systems and Decision Science	PhD	Associate Professor	Full-time	INSS 611, 612
Nguyen, Hoang	Tenured	Finance	PhD	Associate Professor	Full-time	FIN 505, FIN 605, FIN 625, FIN 624, FIN 724
Pevzner, Mikhail	Tenured	Accounting	PhD	Professor	Full-time	ACCT 505, FIN 780
Richardson, Paul	Adjunct	Operations Management	DBA	Lecturer	Part-time	OPM 505, 615
Yu, Jerry	Tenured	Finance	PhD	Associate Professor	Full-time	FIN 505, FIN 605, FIN 625, FIN 715

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:

a) Pedagogy that meets the needs of the students

The University of Baltimore provides periodic training to its faculty on the use of the latest online and face-to-face teaching tools as well as professional development opportunities through attending national conferences and trainings, such as, for example, Intensive Data and Analytics Bootcamp provided by the American Accounting Association<sup>11</sup>. In addition, the faculty is afforded opportunities to attend continuing professional education sessions through the other providers of technical skills training, such as Coursera and Udemy.

b) The learning management system (LMS)

The University of Baltimore provides periodic necessary trainings in its Learning Management System—Canvas through its Center for Excellence in Learning, Teaching and Technology (CELTT) as well as periodic quality reviews of the faculty's utilization of LMS. As discussed above, The University of Baltimore will be transitioning to Canvas in Summer 2023 and faculty training is being provided in synchronous and asynchronous formats.

c) Evidenced-based best practices for distance education, if distance education is offered.

Similar to LMS training, The University of Baltimore's CELTT provides periodic training in online teaching to its faculty. Additionally, each department within the Merrick School of Business coordinates informal, collegial discussions about course design and delivery. Student evaluation data is used to improve course design and effectiveness.

<sup>11</sup> <https://aaahq.org/Meetings/2023/Intensive-Data-and-Analytics-Workshop-IV>

**J. Adequacy of Library Resources (as outlined in COMAR 13B.02.03.12).**

**Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.**

The program does not require substantial additional library resources beyond those already provided by the University of Baltimore's Bogomolny Library which provides an adequate level of access to finance books and academic journals. Bogomolny Library also provides access to financial databases used in financial analytics work, such as Capital IQ, Mergent Archives, and BVR.

**K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)**

- 1. Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.**

The University of Baltimore's current facilities provide excellent conditions for data analytics work through our Information Systems Lab and through our current computer labs. The University also provides students loaner laptops whenever they need them. Our current classrooms are currently adequately equipped for both online and face-to-face instruction, and they have up-to-date IT infrastructure.

- 2. Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to a) an institutional electronic mailing system, and b) a learning management system that provides the necessary technological support for distance education**

The University of Baltimore provides every student with an email address, access to Learning Management System (Canvas), and free access to Office 365 software (Word, Excel and Powerpoint).

All faculty and credit-earning students are provided with an institutional e-mail account that integrates with the institution's learning management system, Canvas. Open-access, comprehensive student support for the learning management system is provided in module format and includes "how to" video and print tutorials, links to student services, and tips for success in an online learning environment. Faculty can access an LMS training site and work with Canvas faculty fellows from their colleges and instructional designers for course design and technical support. Both faculty and staff have access to 24/7 phone and chat support.

**L. Adequacy of Financial Resources with Documentation (as outlined in COMAR 13B.02.03.14)**

- 1. Complete [Table 1: Resources and Narrative Rationale](#). Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds. Do not leave any cells blank (use "0" if no data is applicable).**

**Narrative:** The Merrick School of Business anticipates a modest student gain per year as a result of this curriculum revision. Full-time tuition rate is weighted average assuming 75% in-state, while part-time tuition is based on the in-state rate.

TABLE 1: PROGRAM RESOURCES					
Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5

1. Tuition and Fee Revenue (c + g below)	\$ 341,054	\$ 351,350	\$ 378,039	\$ 383,229	\$ 400,520
a. Number of F/T students	9	10	11	12	13
b. Annual Tuition/Fee Rate	\$ 17,246	\$ 17,936	\$ 18,653	\$ 19,399	\$ 20,175
c. Total F/T Revenue (a*b)	\$ 155,212	\$ 179,356	\$ 205,184	\$ 232,790	\$ 262,277
d. Number of P/T students	13	15	16	18	20
e. Credit Hour Rate <i>[PT tuition &amp; mandatory fees – see note]</i>	\$ 875	\$ 910	\$ 946	\$ 984	\$ 1,023
f. Annual Credit Hours Rate (per student, average)	9	9	9	9	9
g. Total P/T Revenue (d*e*f)	\$ 102,333	\$ 122,799	\$ 136,226	\$ 159,384	\$ 184,177
2. Grants, Contracts & Other External Sources	0	0	0	0	0
3. Other Sources – N/A	0	0	0	0	0
TOTAL (Add 1-4)	\$ 257,545	\$ 302,156	\$ 341,409	\$ 392,174	\$ 446,454

2. Complete [Table 2: Program Expenditures and Narrative Rationale](#). Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

TABLE 2: PROGRAM EXPENDITURES					
Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	\$191,800	\$201,390	\$250,047	\$262,549	\$360,762
a. Number of FTE	1.25	1.25	1.50	1.50	2.00
b. Total Salary	\$175,000	\$183,750	\$231,525	\$243,101	\$340,342
c. Total Benefits	\$16,800	\$17,640	\$18,522	\$19,448	\$20,421
2. Admin Staff (b + c below)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
c. Total Benefits	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
3. Support Staff (b + c below)	\$18,000	\$18,900	\$19,845	\$20,837	\$21,879
a. Number of FTE	.25	.25	.25	.25	.25

b. Total Salary	\$15,000	\$15,750	\$16,538	\$17,364	\$18,233
c. Total Benefits	\$3,000	\$3,150	\$3,308	\$3,473	\$3,647
4. Technical Support and Equipment	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5. Library	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. New or Renovated Space	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
7. Other Expenses	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total (Add 1 through 7)	\$209,800	\$220,290	\$269,892	\$283,387	\$382,641

Note: Salary and benefit projections (lines 1, 1b, 1c, 3, 3b, and 3c) are based on current average salary and benefit expenditures adjusted for expected cost-of-living increases over time. It is important to note that faculty often teach in multiple graduate programs. With expected program growth, actual faculty expenses may be lower if part-time faculty are deployed.

There are no expenses related to administrative staff, technical support, library, or new or renovated space attributable to the program.

#### **M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR 13B.02.03.15).**

##### **1. Discuss procedures for evaluating courses, faculty and student learning outcomes.**

The University has a shared governance process for curriculum approval. Both new courses and new programs are required to submit student learning outcomes (SLOs), which are then evaluated by faculty curriculum committees, plus staff in the deans' and provost's office.

The assessment of program student learning outcomes is faculty driven. Assessment generally occurs within courses, but assessment results are shared and evaluated within the departments and School of Business.

Faculty are evaluated annually by their supervisor and dean. In addition, policies for tenure-track and tenured faculty call for in-depth peer review at regular intervals.

All courses undergo student evaluation using the college-wide software tool Explorance Evaluations. Students complete evaluations of their course and the instructor at the end of each semester, using an online form. Data from these evaluations are incorporated in the annual chair's evaluation of faculty and are used in faculty promotion and tenure decisions.

##### **2. Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.**

Student learning outcomes are assessed on a two-year cycle using direct and indirect measures. The primary assessment measures are direct assessments administered within courses, evaluated by faculty, reviewed by departments, and affirmed by the College of Business as a whole.

Retention is a key metric of the quality of our courses and faculty and retention data is reviewed on an ongoing basis, as are student evaluations of faculty. These evaluations have highlighted improvements that can be implemented across the curriculum in course delivery and feedback.

As we implement the new curriculum, we have created a new assessment plan with emphasis on key data analytics elements. Embedded assessments will be deployed beginning in Fall 2023 for the new program goals and the faculty will use this data to drive curriculum improvement.

**N. Consistency with the State’s Minority Student Achievement Goals (as outlined in COMAR 13B.02.03.05).**

- 1. Discuss how the proposed program addresses minority student access & success, and the institution’s cultural diversity goals and initiatives.**

The University of Baltimore is an unusually diverse institution, with an average undergraduate age over 27, a majority minority undergraduate population, and over 400 international students on campus. Approximately 47 percent of UB students are African Americans and 32 percent white. The University serves nontraditional students, which includes many working adults. UB’s current strategic plan underlines the importance of diversity, equity, and inclusion, and one of the strategic goals is specifically to strengthen UB’s commitment these core values.

**O. Relationship to Low Productivity Programs Identified by the Commission:**

- 1. If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.**

Not applicable.

**P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)**

- 1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.**

The University of Baltimore provides a wide variety of distance education programs. In the Merrick School of Business, we currently provide MBA and MS in Accounting and Business Advisory Services degrees online. Thus, the University of Baltimore is very well-positioned to provide Distance Education, including providing MS in Business—Finance program online.

- 2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.**

This program has long been offered in both on-campus and online modalities. The University of Baltimore provides support for distance education, both at the program level and in individual courses, through its Center for Excellence in Learning, Teaching, and Technology.